



S B

337

W33

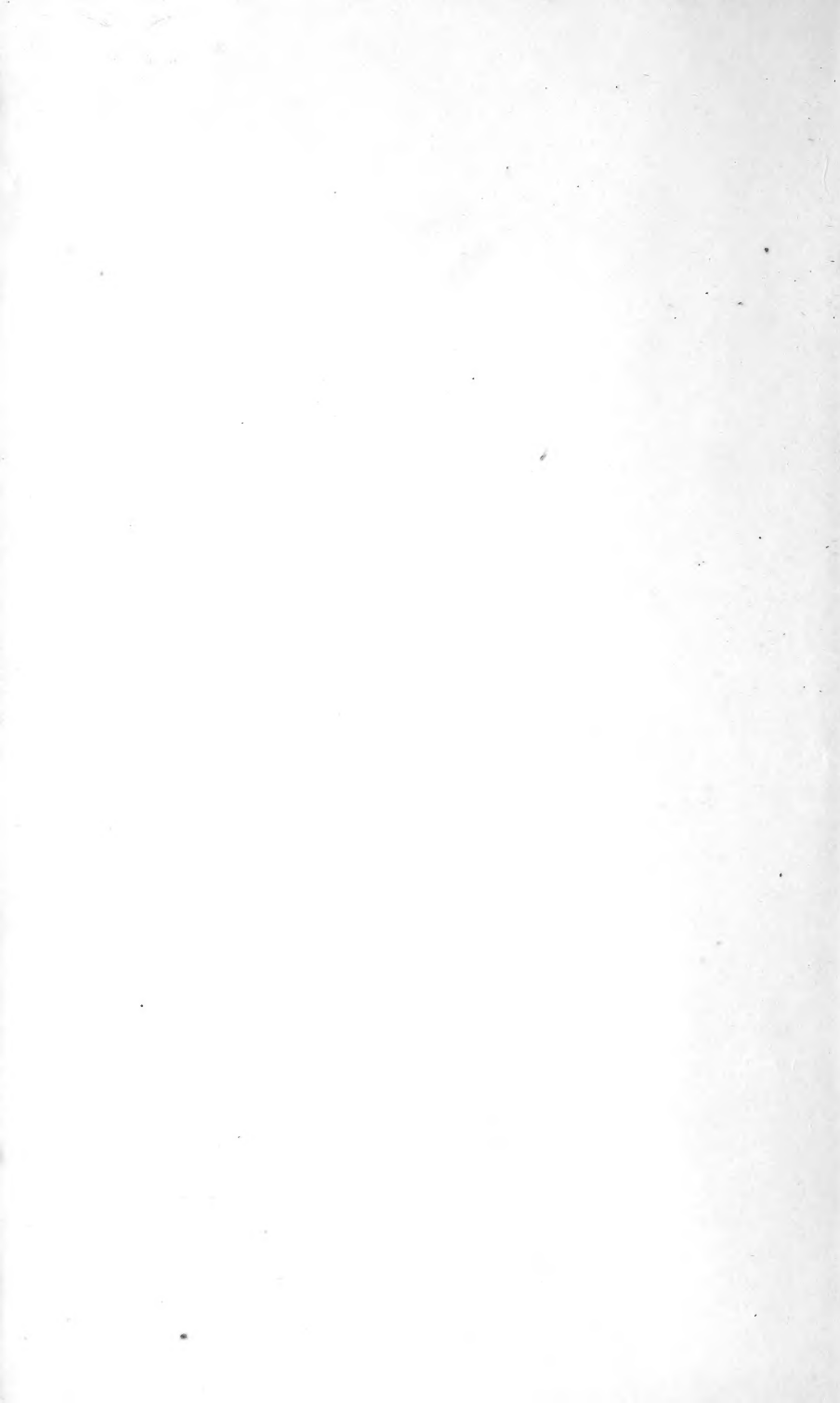
LIBRARY OF CONGRESS.

Chap. SB 337

No. W 33

UNITED STATES OF AMERICA.







THE ART
OF
PROMOTING THE GROWTH
OF THE
Cucumber and Melon;

IN
A SERIES OF DIRECTIONS
FOR THE BEST MEANS TO BE ADOPTED
IN BRINGING THEM TO A
COMPLETE STATE OF PERFECTION.



By THOMAS WATKINS,
MANY YEARS FOREMAN WITH MR. GRANGE, OF HACKNEY.

A NEW EDITION.

LONDON:
HENRY WRIGHT,
AGRICULTURAL AND SPORTING LIBRARY,
51, HAYMARKET.

THE B.A.I.

PROMOTING THE B.A.I.

CONSTITUTION AND BY-LAWS

OF THE B.A.I.

COMMITTEE OF THE B.A.I.

THE B.A.I. REPORT

A NEW METHOD

SB337
W33

THE B.A.I. REPORT
A NEW METHOD
OF THE B.A.I.

CONTENTS.

The Cucumber Seed-bed for October	Page 1
The Fruiting Frame for early Plants	14
The Seed-bed for January	43
On the Culture of the late Cucumber	46
On the Hand-glass Cucumber	51
Dimensions of the Boxes and Lights for early and late Cucumbers	59
On the Culture of early and late Melons	65
Dimensions of the Boxes and Lights for ditto,...	83

CONTENTS

Introduction	1
Chapter I. The Continental System	15
Chapter II. The Continental System and the British Empire	35
Chapter III. The Continental System and the British Empire (continued)	55
Chapter IV. The Continental System and the British Empire (continued)	75
Chapter V. The Continental System and the British Empire (continued)	95
Chapter VI. The Continental System and the British Empire (continued)	115
Chapter VII. The Continental System and the British Empire (continued)	135
Chapter VIII. The Continental System and the British Empire (continued)	155
Chapter IX. The Continental System and the British Empire (continued)	175
Chapter X. The Continental System and the British Empire (continued)	195
Chapter XI. The Continental System and the British Empire (continued)	215
Chapter XII. The Continental System and the British Empire (continued)	235
Chapter XIII. The Continental System and the British Empire (continued)	255
Chapter XIV. The Continental System and the British Empire (continued)	275
Chapter XV. The Continental System and the British Empire (continued)	295
Chapter XVI. The Continental System and the British Empire (continued)	315
Chapter XVII. The Continental System and the British Empire (continued)	335
Chapter XVIII. The Continental System and the British Empire (continued)	355
Chapter XIX. The Continental System and the British Empire (continued)	375
Chapter XX. The Continental System and the British Empire (continued)	395
Chapter XXI. The Continental System and the British Empire (continued)	415
Chapter XXII. The Continental System and the British Empire (continued)	435
Chapter XXIII. The Continental System and the British Empire (continued)	455
Chapter XXIV. The Continental System and the British Empire (continued)	475
Chapter XXV. The Continental System and the British Empire (continued)	495
Chapter XXVI. The Continental System and the British Empire (continued)	515
Chapter XXVII. The Continental System and the British Empire (continued)	535
Chapter XXVIII. The Continental System and the British Empire (continued)	555
Chapter XXIX. The Continental System and the British Empire (continued)	575
Chapter XXX. The Continental System and the British Empire (continued)	595
Chapter XXXI. The Continental System and the British Empire (continued)	615
Chapter XXXII. The Continental System and the British Empire (continued)	635
Chapter XXXIII. The Continental System and the British Empire (continued)	655
Chapter XXXIV. The Continental System and the British Empire (continued)	675
Chapter XXXV. The Continental System and the British Empire (continued)	695
Chapter XXXVI. The Continental System and the British Empire (continued)	715
Chapter XXXVII. The Continental System and the British Empire (continued)	735
Chapter XXXVIII. The Continental System and the British Empire (continued)	755
Chapter XXXIX. The Continental System and the British Empire (continued)	775
Chapter XL. The Continental System and the British Empire (continued)	795
Chapter XLI. The Continental System and the British Empire (continued)	815
Chapter XLII. The Continental System and the British Empire (continued)	835
Chapter XLIII. The Continental System and the British Empire (continued)	855
Chapter XLIV. The Continental System and the British Empire (continued)	875
Chapter XLV. The Continental System and the British Empire (continued)	895
Chapter XLVI. The Continental System and the British Empire (continued)	915
Chapter XLVII. The Continental System and the British Empire (continued)	935
Chapter XLVIII. The Continental System and the British Empire (continued)	955
Chapter XLIX. The Continental System and the British Empire (continued)	975
Chapter L. The Continental System and the British Empire (continued)	995

ADVERTISEMENT.

THE author begs to inform the purchasers of this work, that it was originally his intention to have given an engraving of the particular description of cucumber and melon, which he has been so successful in bringing to a state of perfection ; and, in fact, a plate was executed, at a considerable expense, for that purpose. Finding, however, that although accurate in its representation of *fine* fruit, it did not pourtray the difference, nor convey the precise idea of those qualities which constitute the superiority of the author's ; and aware that such would have been obvious to every experienced gardener, the design was necessarily abandoned, trusting, that as it was merely intended for an embellishment, its deficiency will not render the work less valuable to the profession.

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

$$\frac{dx}{dt} = P(x, y, z), \quad \frac{dy}{dt} = Q(x, y, z), \quad \frac{dz}{dt} = R(x, y, z),$$

where P, Q, R are continuous functions of x, y, z in a certain domain D of the space (x, y, z) .

2. In the second part of the paper we consider the case when the functions P, Q, R are linear in x, y, z . In this case the system of equations can be written in the form

$$\frac{dx}{dt} = a_1x + b_1y + c_1z, \quad \frac{dy}{dt} = a_2x + b_2y + c_2z, \quad \frac{dz}{dt} = a_3x + b_3y + c_3z,$$

where a_i, b_i, c_i are constants. The characteristic equation of this system is

$$\lambda^3 - (a_1 + b_2 + c_3)\lambda^2 + (a_2b_3 - a_3b_2 - a_1c_3 + a_3c_1 + b_1c_2 - b_2c_1)\lambda - (a_1b_2c_3 - a_2b_3c_1 - a_3b_1c_2 + a_1b_3c_2 + a_2b_1c_3 - a_3b_2c_1) = 0.$$

Preface.

HAVING, when young, imbibed a particular inclination to study the culture of the cucumber and melon, under the direction of my father, whose character as an early framer was in high repute, I assiduously tried every experiment which was calculated to improve upon his system, by bringing them to a more complete state of perfection.

In marking the progress of their growth, I usually committed to writing those plans which I had found to have been productive of beneficial effects. The result of these remarks has proved the compilation of the following treatise, undertaken at the request of several horticult-

turists, who have expressed their desire to become acquainted with the process of my mode of cultivation.

Considering it superfluous to enlarge this work by unnecessary or controversial observations, I have confined myself entirely to those directions, upon which I have uniformly acted ; and have endeavoured to reduce them into as plain and simple a form as possible ; at the same time observing to omit nothing which can be of utility in this difficult and hitherto imperfectly understood branch of horticulture.

Several gardeners, who are now very eminent in their profession, have placed themselves under my tuition, and I flatter myself are perfectly satisfied that the instruction they received, was fully adequate to the compensation required ; and perfectly convinced them of the superiority

of my mode of culture. I here pledge myself, that the advice given to such practitioners is contained in the following directions.

My principal object in the different experiments I have tried, has always been to discover an easy, as well as a certain method of maturing these delicate plants, and, in consequence, have avoided, as much as possible, any artificial means that might be attended with difficulty or expense.

The only writer I know upon this subject, with the exception of Abercrombie, whose system is now totally exploded, is Mr. M'Phale, gardener to Lord Hawkesbury. This gentleman published a treatise in the year 1795, in which he strenuously recommends brick pits for cucumbers and melons, as far superior to the dung bed. It will be obvious, however, to every person who

has perused that work, that the plan was adopted merely through deficiency of knowledge in the proper management of the dung bed; for Mr. M'Phail asserts, that upon first attempting to produce early cucumbers in Lord Hawkesbury's garden, he completely failed, and was, in consequence, induced to apply to some horticulturist in the neighbourhood, to whom he paid a gratuity of five guineas for his instruction. The principal thing he appears to have been taught, was to keep the burning heat of the dung about the roots of the plants down by the continual application of water into the bed; which, however, he found insufficient to preserve them in a thriving state, throughout the winter months. This caused him to assert that it was out of the power of any person to keep a dung bed sweet, and consequently impracticable to rear them at that time of the year. To this I have only to observe, that the following

directions will prove a contradiction ; for if they are strictly attended to, no fear need be entertained of their vigorous growth, either from the premature season, or the inclemency of the weather.

In December and January, although their health is certain, I must allow that they do not grow so fast as in other months ; and this is the particular time when difficulty is experienced by those who are unacquainted with the proper means to be adopted, although, perhaps, their efforts may have been attended with far more trouble than the rules here prescribed.

The dung bed is certainly of the greatest importance both in the culture of the cucumber and melon ; and want of knowledge in the management is generally the cause of the loss of the plants in the winter season, by the

settlement of a cold moisture upon them, which cannot be removed without assistance from the sun: particular attention, therefore, to the directions given upon that point is highly necessary; indeed, it cannot be too strongly impressed on the mind of the horticulturist that upon this greatly depends the success of his endeavours to mature them to any degree of perfection.

In the remarks upon preserving the plants from a cold moisture, in the most inclement weather, I have called to assistance what may be technically termed an artificial sun; and as this most material point may be perfectly understood I shall here describe it more particularly.

Keep the bed always wrapped up to nearly the top of the box with hay, straw, or any kind of sweet litter; observing that hay, however

damaged, is certainly preferable ; this will have the desired effect in promoting a top heat, and obviating the difficulty above-mentioned, in keeping the plants perfectly dry.

To those who are unacquainted with the management of a dung bed, a brick one certainly appears more advantageous, in being attended with less trouble to the horticulturist, though infinitely with more expense, both in the building and consumption of dung : this, however, is a mistaken idea, for nothing certainly can be more congenial to the growth of either the cucumber or melon than a sweet steam heat : this essential requisite, which may always be obtained by the process hereafter described, can be but partially promoted in brick pits ; for although water, in its necessary application, may create a steam heat, it soon evaporates ; and the heat of the linings having to pass through

the bricks and tiles, it becomes dry, and quite incapable of affording any nourishment to the plants.

The limited space in which the plants are confined in their growth by brick pits, is also a very great objection to this mode of culture. That they derive their chief support from the extremity of the roots must be obvious to every one, and if these are concentrated in the middle of the bed, and thereby rendered incapable of expanding over the flues as in the dung bed, they must be certainly deprived of that vigour which is natural to them from a free and uninterrupted growth, and where they experience the whole of the benefit that can arise from the bed in which they are placed. In short, the dung bed in so many instances is superior to brick pits, that competition in the culture of either the cucumber or melon by the latter plan

would be entirely useless; for whether in the vigour of the plants, quickness of growth, or production of fine fruit, the dung bed, systematically attended to, as described in this treatise, will prove beyond doubt, that the most expensive means are not always attended with the most beneficial results.

In the following directions, the first thing I have taken notice of, is the early cucumber, as being the most difficult, and consequently the most particular in its process of culture. Strict attention and perseverance in the method prescribed, cannot fail to bring them to a complete state of perfection within the time limited.

Secondly—The necessary directions will be found for promoting the growth of such cucumbers as are sown in January. It is here necessary to observe, that this is the most preferable season

for those which are not required so very early ; as the increasing temperature of the weather in the course of their growth, affords facility for their being matured with a greater degree of strength.

Thirdly—The method of bringing to perfection the late frame, or spring sown cucumber. The directions upon this head will be found extremely useful, both to young practitioners, and those who are not professed horticulturists. Many gentlemen who cultivate their own gardens, and are desirous of possessing a cucumber bed, will find the information here given of great utility.

Fourthly—In treating upon the process necessary for the management of the hand-glass cucumber in the summer months, I have offered an improved system, which will be found

of considerable importance to gardeners in general in enhancing the value of their fruit, by rendering it much superior to that produced by the common method.

The directions I have given with regard to the melon, will be found to explode all that difficulty which gardeners have usually imagined exists in the production of this choice fruit. The description given of my method of culture, will at once evince the simplicity of its process, and show the certainty of its result.

Having explained the motives which induced me to undertake this work, I have only to observe, that the system has been productive of great advantage to myself, in enabling me to supersede my contemporaries in several annual shows, by obtaining the prize; and, to render this effective to every person, the principal thing

required, as before mentioned, is attention and perseverance in the rules prescribed ; and those who adopt them will, I am confident, acknowledge their utility, and be sensible of the benefits that must eventually arise from a practical improvement in this particular branch of horticulture.

THOMAS WATKINS.

Highbury Park, January 30, 1824.

THE ART
OF
PROMOTING THE GROWTH
OF THE
Cucumber and Melon.

**ON THE MANAGEMENT REQUIRED IN THE CULTURE
OF EARLY CUCUMBERS.**

THE SEED-BED FOR OCTOBER:

*To be sown from the 10th to the 20th of the
Month.*

ONE load of horse-dung, or twenty barrows-full, will be sufficient for a one-light box, and let it be put together at least three weeks before making the bed, in a round or square heap, being particular in well treading it down. If the dung is dry, it will be necessary to give it some

water ; if very dry, a dozen pots will be required. Let it lay in this state a week, and then turn it, shaking the outsides of the heap into the middle, and give it some more water. In doing this, it is requisite that the heap should be well shook to pieces, and trod down. Let it lay another week, at the expiration of which, observe the same directions as before given, applying the quantity of water in proportion to the dry nature of the dung. At the end of the third week, it will be in a proper condition to make use of, as by that time it will be sufficiently moist and hot, the necessary state in which it should be, before the formation of the bed.

As much depends upon the nature of the dung, and its proper condition, great attention should be paid, and some judgment exercised in the means best calculated to prepare it for a state of fermentation. The most certain method that can be adopted, and likely to ensure a beneficial result is, in the summer months, to pack the dung you intend to make use of for the October seed-bed as close together as possible,

taking care to keep it dry, that it may retain its virtue. This sort of dung is far preferable to that newly made, being less rank and not so liable to burn; and when under a state of preparation, by turning and moistening, as before described, it will be in a much better condition than any that can be fresh procured.*

Before forming the bed, let the bottom be made in the following manner:—Raise the ground about six inches above the level with road sand or mould, upon the top of which place some fagots, or other kind of wood, to the height of a foot, in order that the bed may be well drained. If there is an insufficiency of dung, you can add a foot of dry rubbish, such as strawberry or asparagus halm, or any other loose stuff. Let the bottom be extended nine inches wider than the frame you intend to make use of, the height of the bed being at the back four feet, and in the front, three feet nine

* Dung put together in the above manner, will retain its virtue from six to nine months.

inches. Beat it well down with a fork ; then put the box on, and fill it three parts full with the shovellings of the dung that is left ; after which, place on the light, and let it be close shut down. As soon as you discover the heat rising, admit air by opening the frame about an inch : when it increases, so as to become very hot, admit more air, by extending the aperture to two inches, It must remain in this situation about a week ; then fork it up above a foot deep, and if caked together, or in the least dry, give it more water. From two to four pots is generally sufficient ; but the quantity must be regulated by the state of the bed. Here it is necessary to observe, that moisture is of most important consequence to the seed-bed, and nothing is so well calculated to sweeten and cleanse it from impurity as water.

In two or three days after forking up, it will be necessary to take off the box and light, for the purpose of making the bed even. In doing this, stir it up from about the depth of a foot, and shake it to pieces ; then put on the box

again, and give the light one or two inches of air, according to the temperature of the weather.

It will now be necessary to wrap up the bed with straw, pea-halm, or hay, about eighteen inches wide at the bottom, drawing it in gradually to a foot wide, within three inches of the top of the box.

In three or four days stir up the bed in the same manner as before, observing that if it be in the least dry, or inclined to a burning heat, to give it three or more pots of water, as shall seem necessary. It must be stirred up again in three or four days, and beat down gently with a fork, when it will be in a fit state to receive the old tan or mould in which the seed is to be deposited.

A seed-bed should always lay a fortnight or three weeks before the seed is attempted to be sown; as many evil consequences are to be apprehended from sowing it before, from the firing of the bed, or the impure nature of the

dung. If this be not strictly attended to, the plants will not be brought to that degree of perfection, as might reasonably be expected from a bed in its proper heat and condition.*

After the bed has been laid and dealt with according to the foregoing directions, spread two barrows-full of old tan or light mould all over the surface, having it a little deeper in the middle than at the sides. Old tan is certainly more preferable than mould, though either will answer the purpose. Let it be put in the frame the day before the seed is sown, and cover the bed up with a single mat at night, taking care to shut it down until the morning, that the heat may be properly drawn up. Take some forty-eight size

* The heat required in October sown plants, while growing in the seed-bed, is from sixty-five to seventy degrees of Fahrenheit's thermometer. Should that temperature be exceeded in this season, they will draw up very long: but after being ridged out, more heat will become necessary; that is to say, from seventy to eighty degrees: and the same is to be observed with young plants raised in the three following months.

pots, and mix a quantity of leaf mould with a sixth proportion of road sand, not sifted fine. The sifting mould to a fine degree is an error too prevalent in horticulture, and ought particularly to be avoided, from its great tendency to bind.

It is very requisite that a cucumber should have a good digestion, and in order to accomplish this, it will be necessary to cover the holes at the bottom of the pots with broken pieces ; then strew a little of the rough siftings of the mould over it, and fill them up within half an inch of the brim with the prepared mould and sand. Shake it down a little, and sow the seed*

* Some gardeners are very particular in having seed that is three or four years old, imagining that new will grow too vigorous, and not show fruit or set so well ; but in this they are much mistaken, the Author knowing, from experience, that new seed, or at least not more than two years old, is the best calculated for bringing to perfection both the cucumber and melon ; possessing the advantage of a greater freedom in growth, and much finer fruit than can be derived from old seed.

from eighteen to twenty-four in a pot, just covering it with a little mould ; then give it a small quantity of water, which for the first time may be cold, but great care must be taken in the subsequent waterings, that it be chilled to about the warmth of new milk.

The seed being sown, plunge the pots in the bed up to the rim, and give them about half an inch of air. At night they must be covered with a single mat, taking care to turn it up at at the back, that the steam may pass freely from the bed. Let the air be continued both night and day.

After the seed has been sown three days, it will be up, when the pots must be unplunged, placed on the surface, and some water given to them. They will now require upwards of an inch of air, both night and day, which will cause the plants to grow stuggy, or dwarfish, and prevent their drawing. In about three days give them some more water in the morning, and they will be ready to pot off in the afternoon.

Plants should be always potted off when young, as they strike more freely in the pots; and, in doing this, the following directions should be attended to.

Put the mould in the bed to chill, the day before potting off, and let it be of the same description as that in which the seed was sown. If the pots are old and dirty, wash them, and be careful in having them properly dried before they are made use of. Take some old rotten turf, or a little of the coarse siftings of the leaf mould, and place a small quantity over the tile at the bottom of every pot; then fill them about one-third full, put three plants in each, and cover the roots about an inch. The pots must not be plunged, but placed on the surface, and some water given them with a fine rose.

It is necessary to have a small pot on purpose to water the plants, which will contain about three quarts, and has a hollow fine rose, which is much better calculated to water the plants regularly than a spreading one.

Be particular in watering them regular, which will be requisite every two or three days, for the space of three weeks or a month at latest, when they will be in a proper condition to ridge out.

After the plants have been potted three days, add a little mould to them, and repeat it every two or three days, for about a fortnight, until the pot is quite filled. Much attention should be paid to this method of putting in the mould, which experience has convinced the author is far superior to the usual practice of filling the pots in the first instance up to the seed-leaves of the plants. By the gradual mode of filling, the plant is prevented from shanking, and is certain in its growth of being dwarfish and strong, which cannot be insured by the common method, as it tends considerably to weaken the plant, and renders it very liable to fog off, before taking root. By potting them low, and only just covering the roots at first, the stems of the plants become hardened, and strike very freely upwards: as the tap roots of a cucumber always decay when forced with a strong bottom heat.

It will be necessary, after the plants have been potted about a week, to examine the bed, for the purpose of ascertaining whether there is any fire heat. If such should be found to be the case, and the directions as before given with regard to moisture have been strictly attended to, it can only exist in the tan, which must immediately be supplied with water, and, the day following, stirred well up together and levelled, placing the pots upon the surface. In another week again examine the bed, and if any fire heat still remains, attend to it as above; if not, stir up the tan, and plunge the pots about half way down; being, however, guided in this by the temperature of the bed, as plants sown in October do not require so much heat as those in the three following months.

Observe, when the plants have been potted two or three days, to stir the mould in the pots, round the plants, and likewise the tan, with a sharp-pointed stick, which will contribute to freshen the plants, and prevent any thing of a mouldy nature from injuring them.

As soon as they have made the first rough leaf, top them, by taking out the break that appears next, which may be easily done with the thumb and finger, or a sharp-pointed stick. In little more than a fortnight, they will be in a fit state to top down; and in three weeks from the time of sowing, ready to ridge out.

At this time of the year, the bed will not require any lining; but observe, that as the wrapping sinks, it will be necessary to increase it, pressing it down close to the box, and keeping it within one-third of the top.

If the plants are not ridged out when three weeks old, plunge them up to the rim, until the fruiting frame is ready for their reception, which ought to be at the latest when they are a month or five weeks old. If it should happen, however, that the frame is not perfectly sweet, by no means ridge them out until it is in a proper condition. After they are a month old, increase the lining at the back and front, about four or five barrows-full each, applying it in the following

manner:—Remove the wrapping down to the bottom, and extend the dung to the width of two feet, and three parts as high as the bed; drawing it in to about eighteen inches at the top. Cover the lining with the litter four inches wide from the bottom, and three parts as high as the box, being particularly careful in stopping up the inside, by pressing the tan close to the box, about three inches above the bottom. As the lining sinks, add a little wrapping to the top, formed of hay, or old litter that is quite sweet.

THE FRUITING FRAME,

*For Plants sown in October, November,
December, and January.*

Four loads of dung will be sufficient for a three-light box, and the same in proportion to the number you intend to make use of. Let it be put together a fortnight before the seed is sown; be very particular in giving it plenty of water, and pack it close together. After it has laid a week turn it, and if dry, moisten it with water. Let it continue in this state another week, when the same directions as before given must be observed; and, in a week more, the bed will be in a fit condition to make up.

The bottom must be prepared in the same manner as directed for the seed-bed; then form the bed of dung four feet three inches at the back, by four feet in the front, allowing for a

cavity of about ten inches between each box ; then place the boxes on, and put the shovellings inside, in the proportion of two or three barrows-full to a light. In forming the bed, it is the best plan to make it in layers of about a foot each, which will cause the dung to be much better mixed, than if all finished at first, of an equal height. Be very particular in separating the dung, and breaking it to pieces, afterwards beating it well down with a fork.

After the bed has been thus prepared, put the lights on, and shut them down close until the heat begins to rise. When such is the case, give them about an inch of air ; and in three or four days wrap the bed all round with dry litter or useless hay, eighteen inches wide from the bottom, sloping it in to about a foot as high as the bed, which will greatly tend to promote a regular heat. As the careful wrapping up of the bed is an essential requisite, means must be taken to keep it close, and protect it from any injury that may arise in consequence of tempestuous weather, this may be accomplished by means of

sharp-pointed sticks, with hooks in the form of a peg, and about the size and length of a broom-stick. Thrust these through the litter into the bed, about half way up, one to each light, at the back and front, and two at each end.

After the bed has been made about a week or ten days, take off the boxes and lights, in order to level it, and let it have from four to six inches fall from the back to the front; in this, however, you must be in some degree guided by the form of the boxes, which it is necessary should have a good fall, that the plants may derive benefit from the sun; then fork up the bed about a foot deep, and again place on the boxes and lights, giving nearly two inches of air, both night and day. In about four or five days it will be necessary to again fork it up, and give it some water, in the proportion of two pots to a light. This must be repeated every two or three days, until the bed is perfectly sweet, which is usually the case in three or four weeks, applying water during that time, according to the state of the bed.

When you find that the bed is properly purified, put in the sifted leaf mould. A three-light box will require a large barrow-full; the quantity for a one-light being about four shovels. After this, add to the wrapping some sweet litter or hay, increasing it to nearly the top of the boxes, and apply about two pots of water to each of the cavities, taking care to fill them up to nearly the tops of the boxes, with short sweet mulshy litter. This is a point but very little known, yet of the greatest importance in the culture of cucumbers; for when the weather begins to grow severe, if there is no cavity, and the boxes are placed close together, in the usual manner, the outsides are very liable to become damp, and the cold, penetrating through, is certain of doing the plants material injury.

Put a pot of plants in the middle of a three-light box, and at night admit nearly two inches of air, covering them with a single mat; and if on the following day the plants look well, they may be safely ridged out.

It is requisite that both the boxes and lights should be painted every year, at least a month before they are wanted for use; but if this cannot be conveniently done, be particular in washing them with boiling water, in which some unslacked lime must be mixed. This will in some measure answer the purpose of paint in effectually destroying the vermin, or the eggs which may have been deposited in the crevices of the wood.

After the plants are ridged out, wash them every morning, on the outside, and about once a week in the inside, which will tend to reflect the light, and cause them to thrive much better. When you wash the outside, push them down about two or three inches, which will prevent the water from perishing the lining at the side of the boxes. If the plants have received no injury, and are able to bear the heat of the bed, ridge them out, letting the hills be about nine inches high, covering the roots about an inch round, and being an inch higher than they were when

in the pots. If there is any surplus mould, rake it with the hand all over the bed; then water the plants, taking care, at the same time to sprinkle the bed regularly upon the surface. Close them down for the space of ten minutes, and then admit an inch of air. If the weather is mild, in an hour it may be increased to two inches, and a single mat only will be requisite at night. If, however, the weather is windy, cover them at night with a double mat, or a single one and a little hay.

Be very particular in allowing them plenty of air, especially of a night, taking care, however, to regulate this by the temperature of the weather. If there is much wind, they will of course require less air; but, at all events, it is better to give too much than otherwise, more particularly at the first ridging out, as the weather at this season being frequently subject to sudden changes, which, should it occur in the night, and the plants are too confined, or the least rankness existing in the bed, they are sure to experience material injury, which, at this time of year, it is

very improbable they will ever recover ; or, if with extreme difficulty, they should be brought round, they can never be expected to grow to any degree of perfection.

Stir up the bed every day for a fortnight to the depth of about nine inches, with a hand-fork, and if you discover any fire-heat, immediately give water to the part affected, that being the only effectual remedy that can be applied. Be careful in forking close to the bottom of the hills, and if you ascertain that it fires much in this place, bore several holes at the bottom of the hills, and apply plenty of water.

Have a sharp-pointed stick, about six or eight inches long, for the purpose of stirring the mould round the plants, in a similar manner to hoeing a crop in a garden. This will very much refresh the plants, and should be attended to while they are young, for at least two months the day after they have been watered.

As soon as the roots begin to be visible

through the hills, add three shovels-full of unsifted mould at a time to each hill, being very careful not to mould too freely, until the beginning of February, as the plants from the middle of December to the middle of January, lie in a dormant state; consequently, too large a quantity of mould at this season, will be attended with ill effects, in stagnating the roots, and preventing the heat of the bed rising in a free and proper manner.

This being the season when plants are most exposed to injury, and are frequently lost, great care and attention is necessary for their preservation from the effects of the cold, in wrapping the linings well up, and giving a good top covering. If the weather is intense, they will require eight or nine inches covering of hay, and water only once a week.

As soon as the plants are first ridged out, have dung in for a lining, which should always be put in the front and sides first. When the dung has been put together a week, turn it, and at the

end of another it will be fit for use ; one load being sufficient for a three-light box. After the plants have been ridged out a fortnight, or three weeks at the farthest, it will be necessary to line the bed to the width of about two feet, and three parts as high as the bed, inclining with a slope of about six inches towards the top. When the dung has been put about half way up, tread it, and then add the remainder, beating it well down with a fork. Cover the lining with litter about three or four inches thick at the outside, and within one or two inches of the top of the box ; then place a board at the top about nine inches wide, which will keep it close, and assist in drawing up the heat. Be particularly careful in stopping the inside next to the box, when you make a fresh lining, and beat it close down with the hand about two or three inches above the bottom.

When a fresh lining has been added, have the dung in readiness for the back, which will be required about a fortnight afterwards. It should be formed about two feet six inches wide, well trod down, and wrapped up in the same manner

as the front, within three inches of the top of the box. Be careful that the litter is not rank ; old useless hay, or litter that has been some time laying by, will be preferable. The same directions must be attended to in stopping up the inside of the box, as with the front.

As soon as the heat of the lining in any degree affects the bed, and you discover that the inside, where it has been stopped, begins to get dry, give it some water in the evening, just before covering up, for about a week or ten days, which will be the means of keeping the rankness down, and causing a sweet steam heat to rise.

As the lining settles, press it down with a spade next the box, and add more litter upon the top, which should be done every other day, observing that when you increase one lining to have the dung in readiness for the next ; each lining not being calculated to last more than a month or five weeks ; though the back one will not want renewing quite so often as the front. When you apply the second front lining, it will

be necessary to bore the bed with a hedge-stake or mop-stick, making five holes to a three-light box ; that is, one under each hill, and two under the bars : bore them straight rather better than half way up the bed, so that when the second back lining is applied, holes may be bored exactly opposite to the others. This will cause a free circulation of the heat from one lining to the other, and prove not only of great service in regulating the temperature of the bed, but of equal advantage in draining off the surplus water. Take care when you add a fresh lining, to keep the holes open.

As the linings draw the boxes down, they will require rising with boards and bricks. In order to accomplish this, it will be necessary to provide some small pieces of board, rather larger than a brick, placing one of each, with a brick, under the corners of the boxes ; and, as the bed settles, increase the number of bricks. When you raise the boxes, stop up the bed with rotten moist dung, and close up the inside about two or three inches above the bottom of the box.

The plants should be always topped when young, at the first joint, as before directed; then let them run two joints twice following;* afterwards keep them topped at the first joint, except it be blind, which may be easily ascertained by close examination; if you find such to be the case, let it run another joint before it is topped.

It is necessary that the plants should be continued in leaf mould until the middle of January, as there is no other in which they will thrive so well at that season of the year. Their peculiar and tender nature bears a strong resemblance to young children, in the care requisite for their

* The Author would recommend January-sown plants, after having been topped at the first joint, to run four joints, then topped again at the first joint, when they will generally show fruit, and, if properly attended to, will swell off to seven or eight inches in length, as the first shows do not come so fine as those afterwards. Do not let more than one fruit swell upon a plant at a time, as more will cause them to grow ill-shaped, and not near so fine.

nurture and growth. They require light nourishment, that will easily digest ; and no soil is so well calculated for this purpose as leaf-mould, mixed with a little grit ; from its excellent properties in absorbing the water.

In ridging out the plants, one thing must be attended to in the preparation of the bed, which has not been before mentioned. Hollow the bed out to the depth of about four inches in the middle, so that if the weather is cold or windy, the dung may be pulled down half way up the hills, when it will be nearly level about the bed ; but as soon as the weather becomes mild, it must be drawn away again, or otherwise the heat will be too violent for the roots. As mould is added to the roots, draw the dung away level with the bottom of the hill ; then put it half way up again, being, however, regulated in this by the heat of the bed, and the temperature of the weather. After the hills cover nearly three parts of the bed, take the dung out which has been placed round them, and level it with nearly the

bottom of the box, leaving three or four inches round the sides to keep out the rankness from the linings, as before directed.

In covering up the plants, a single mat will be sufficient, until they have been ridged out a fortnight, unless the weather is windy or very cold; in such case, make use of a double mat or a little hay; be careful, at the same time, not to give them too much covering at first, as it will draw the plants, and cause them to grow very weak; in this, however, you must be in some degree guided by the heat of the bed, and the temperature of the weather. When there is a good heat, and the weather is still, they will require less; but if there is much wind, or the air is very cold, it must of course be increased. It seldom occurs that plants require much covering until a fortnight before Christmas, when it will be found necessary, if the weather is moderate, to cover them from four to six inches. Instances have occurred, when the author has been obliged to increase the covering to a foot in thickness, from the intense cold;

but this, however, is seldom the case ; and from four to six inches may generally be considered sufficient from December to April. As the sun increases, and the nights become milder, reduce the covering to three or four inches, until May ; from whence to June a single mat, or a little hay or litter will be sufficient. If the weather is now seasonable, and the nights warm, they will not require any covering, but should this not be the case, it is better to continue it even until Midsummer.

Take particular care when covering up, after a fresh lining has been put to the bed, that the mats or hay does not hang over the lights for at least a fortnight, as such will draw the rank steam into the bed, and kill the plants.

The linings should be continued until the weather is fine and settled, which may be expected in the middle of May ; but should the weather be cold and unfavourable, it may be necessary to retain them until the middle of June.

In about the third week of the month of January, the plants will require stronger food; and half bog and half leaf mould may be applied. Should there be a difficulty in obtaining bog earth, procure the top spit of light meadow earth, and lay it up for twelve, or, at the least, six months before it is wanted for use. When you mould towards the outside, it may be still stronger, mixing rotten dung or leaf mould, in the proportion of one-fourth, with bog or light meadow earth; observing, however, not to mould up the plants level until some time after fruit has been cut. The beginning of March is the proper time to mould up full.

Let a cavity be left at the back and front of the box of about two inches, to prevent the roots from being injured on the outside of the box by the linings; and to cause the heat to rise freely from the bed.

It is very necessary that the plants should be kept thin of vine, as being material in the growth of fine fruit; and as they extend towards the

outside of the bed, do not suffer them to run more than one joint at a time.

Keep the leaves thinned, by taking out the oldest first, in order that they may stand single, and not one over the other; to accomplish which it will be necessary to peg them out. When taking off the leaves, cut them close to the vine, not leaving a long stalk, as that will rot and injure the plants. When they are laid, be particular in having the plants down close to the mould, as early as possible, in order that they may strike root; at the same time being careful not to bury the vine. In doing this, place a little mould round the side of the vine first, leaving the top uncovered until it is a little hardened, and the roots begin to strike. When such is the case, cover the vine all over, and then you may continue laying within one joint of the extremity.

It is here necessary to observe, that very few are acquainted with the advantages that may be derived from laying the plants in a proper manner. Many even, who are in the habit of

observing this method, practice it so slightly, that little if any benefit results from it ; and by far the greatest number of horticulturists take no notice of it whatever. Laying is certainly a most material point in the culture of the early cucumber ; and it is impossible to ensure a good crop without a strict attention to it : in fact, the Author principally attributes his success in the production of fine fruit, to his extreme care in this particular. It should be done every fortnight or three weeks after the plants have come into bearing ; and, if continued in a regular manner, good fruit may be obtained until October. Some imagine that October sown plants will soon be worn out, after producing a few cucumbers early ; but this is a mistaken idea, for, if the laying is continued regularly, they will bear good fruit equally as long as any young plants sown in the spring. Leaf-mould, mixed with a little road sand, is the best thing to lay them in until the latter end of March, when you may add a stronger soil, composed of one-fourth of leaf-mould or rotten dung, mixed with bog or light meadow earth.

Soft water is essentially necessary for the plants, as hard is almost certain of producing the canker, unless particular means are adopted to prevent it. In some situations it may be impossible to obtain soft water ; in such a case, let the water stand in a tub for at least twenty-four hours ; if two or three days even it will be the better, as in that time it will be in some degree softened by the sun, and the raw coldness expelled from it.

After the plants have come into bearing, sheeps dung is an excellent thing to mix with the water, if used in a moderate manner. The following proportion will be necessary :—To six pots of water put in the tub one shovel-full of dung ; let this be stirred up continually for the space of two or three days, and when wanted for use, it must be again well stirred up. In watering with this mixture, be particular in having a small thin spouted pot, without a rose, so that it may be easily poured under the leaves. A gallon or six quarts will be a sufficient quantity for one light, and in watering be careful that it is not

sprinkled over the leaves. Sheeps dung, mixed with the water, will be found very beneficial to the plants, if used moderately, as too great a freedom will tend to injure them.

When the plants are first ridged out, they will require water every third day, until about the middle of December; and when applied, it must be sprinkled all over the plants and bed, observing to give a larger quantity where the heat seems most to prevail. In general more water is requisite at the back than the front: unless there is much heat in the front from the middle of December until the middle of January, once in five or six days will be sufficient to water the plants. Round the side of the box, and at the back, however, should be watered every night, while there is much heat. About two or three quarts of water at each time to a light will be sufficient for the plants until the middle of January and from that time more will be necessary. In applying the water you must be guided in a great measure by the state of the weather. Take the opportunity of watering when the sun is

out, and then close them down for about a quarter of an hour or more, according to the season of the year. At all times, before watering, admit double the usual quantity of air about a quarter of an hour previous to the application, for the purpose of hardening the plants.

Water may be applied at any time of the day, if the heat is good, but the most preferable time is certainly about eleven o'clock in the morning, particularly as the season advances towards the months of April and May, and the weather becomes more temperate, and the sun has greater power. After they are watered, shut them down for about ten minutes or a quarter of an hour, and let them have the benefit of a clear sun; then shade them with a mat for two or three hours, and shut the frame close down, in order that a moist sweet steam heat may be produced, which will cause the fruit to swell very quick. At one or two o'clock take off the mat and admit a little air. When the sun is clear and the weather hot, let them be shaded

from eleven to two o'clock ; some evergreen boughs or pea-sticks are very good things.

Should the above directions be found inconvenient to attend to, the difficulty may be obviated by adopting the following method. After the plants are watered in a morning, shut them down, for the space of about ten minutes, then give them a little air ; in about the same time increase it, and so gradually until the proper quantity is admitted. The gradual admission of air is extremely important, and ought, therefore, to be particularly attended to.

The frames should never be shut down too long in the morning of the spring and summer months ; a little air should be given at eight o'clock, if the weather is fine, in an hour it will be necessary to increase it ; afterwards attending to it according to the state of the weather.

In order to produce fine fruit in the early part of the season, that is in February and March ;

let only one grow on a plant at a time. Keep the male blossoms rubbed off when young, to prevent their weakening the plants; the best method of doing which is with a small pointed stick.

As soon as the plants begin to show fruit, leave a few male blossoms to set the fruit with. If this be not attended to in the early part of the season* the fruit will not swell off, as it is the female blossom alone that bears it, and if these be not impregnated with the male they will prove unfruitful. The female flower may easily be distinguished from the male, by the appearance of the fruit at the bottom of the blossom which the other does not possess.

When the female flower is in full bloom, take a male blossom which is in full bloom also, and

* There is no necessity for setting the fruit beyond the latter end of May, as by that time the bees will find their way to the frames, and prove equally effective.

hold it in one hand, with the other split it down, and tear off the flowers, being careful at the same time not to injure the male part ; then hold the male blossom between the forefinger and thumb of the right hand, while the female flower is held between the middle and forefinger of the left hand ; then put the male blossom in the centre of the female, and the farina will adhere to it, and have the desired effect ; should it, however, happen to fall out after it is done, it is of no consequence whatever, as the impregnation is received the instant it is put in.

The proper time to set the fruit is in the morning, as it always comes in bloom at night, and if left until the afternoon the blossom of the fruit closes a little, in consequence of which it is doubtful whether fruition will be effected.

In order to ascertain whether the male blossom is good ; after you have prepared it as above described for use, draw the farina, or genitals, across the thumb-nail, and if good, it will leave a glutinous substance resembling gum.

As soon as the fruit becomes the size of your finger let no more than one be upon a plant at a time to swell off, and when beginning to grow crooked give the stalk end a twist, place them on their backs, put a peg to the side, and the heat of the bed will soon draw them down and make them straight.

A cucumber is a plant that requires much water, particularly when bearing fruit: it will be necessary then to give from one to two gallons each time according to the heat of the bed, and temperature of the weather. If the season is fine and the heat good they will require water every other day, but if the weather is dull, and the heat slack, be very cautious in applying the water lest they should get the canker, which is a dangerous disorder, and very difficult to be removed. The best thing in such a case is to give a strong heat, and be very moderate in the application of water.

After the plants have been ridged out a fortnight it will be necessary to shut them down in

the afternoon, about an hour before they are covered up. They will, however, require air in the night, generally till the fruit is cut, and even then if the weather is mild; for by being kept close at night when there is a strong heat, the fruit is liable to change colour and become of a yellow cast.

The plants should be uncovered in a morning by eight o'clock, or nine at farthest, in the winter, and six or seven as the season advances, unless the weather is very cold or windy, when they may remain an hour longer than usual.

Should the frame be infested with woodlice, place some cabbage-leaves or a small quantity of hay in the bed, which will answer the purpose of a trap to collect them, when they may be easily destroyed by boiling water. Care, however, is necessary in this expedient, for should the plants have taken root at the side of the box, the hot water will materially injure them; but if the plants are kept healthy, little danger is to be apprehended from this description of

vermin, as they always like a sickly stagnated plant to a thriving vigorous one. Mice are sometimes extremely troublesome, but may be destroyed by procuring from a Chemist some ground ox vomicæ, and applying it in the following manner. Mix the drug with some water, stir it up well, and let it boil about ten minutes; take it off the fire and put in some wheat or cucumber seed, letting it steep for ten or twelve hours; or spread some ox vomicæ not boiled upon bread and fresh butter, place this in the bed near the holes at which they enter, which will effectually extirpate them.

With regard to the time of cutting fruit* from

* The Author has tried several sorts, but at present only makes use of three kinds of frame cucumber, which he considers preferable to all the others. One is a long black prickly fruit, with a fine bloom and short handle, well filled up. It will sometimes grow for table to the length of fifteen inches, and usually from eleven to twelve. It is an excellent bearer, but not so well adapted for October sowing as the other two kinds, from its tender qualities, being thin

October sown plants, much depends upon the weather, some seasons being much finer than others. Fruit from the October seed has been cut off by the Author as early as the middle of January, while at another time it has been as late as the beginning of March ; he, however, is well satisfied if it is ready to cut by the middle of February : indeed, upon an average this may be fairly considered as the probable time for its mature growth.

It is not advisable in any young beginner to sow seed in November or December until about

leaved and less hardy : it is, however, a very good sort for January and spring sowing. The other two kinds very much resemble each other, and will frequently grow to the length of twelve inches, filled up in the handle, black, prickly, and carry a good bloom. Their usual dimensions are from eight to ten inches ; being thick-leaved and particularly hardy. Both these are well calculated for the October bed, and excellent bearers for spring sowing. The Author obtained them both by impregnating ; and those who purchase the work of him, may be accommodated with a few of the seeds of either of the above, gratis.

the twentieth of the latter month, as plants grown in that season are very liable to be retarded in their growth, while those sown from about the twentieth of December to the beginning of January will grow much stronger and quicker, as they possess the advantage of the increase of the season. An experienced framer, however, can grow plants at any time of the year, and from those sown at the above time, he may expect to cut fruit by the twentieth of March or towards the latter end of that month, according to the weather ; much depending upon that and the situation of the framing grounds, which should at all times be open to the sun, and defended from the winds.

THE SEED-BED FOR JANUARY.

To be sown in the beginning of the Month.

As this is the season in which Gardeners in general sow seed for cucumbers, it will be necessary to take notice of a few directions which vary from the October seed-bed.

At this time of the year young plants are much slower in their growth, and more difficult to be reared than in October, consequently they require a stronger bottom bed, though made in the same manner as above directed. The dung must undergo the same process in working, but should be six inches higher ; it will also require more wrapping and covering, particularly if the weather is very cold ; in this, however, as before, you must be guided by the temperature of the season ; taking care not to cover too much at first. For the first fortnight a double mat will

be sufficient ; and after that, if the weather is intense, increase the covering, by adding hay to the thickness of six or nine inches, with a mat over it. Air should be admitted night and day, according to the state of the weather ; but they may be closed down for about an hour, before covering up, after they are a fortnight old.

The plants should be ridged out young, at least when they are a month old ; but be very particular in having the fruiting-frame perfectly sweet before they are placed in it, as it is much better to keep them in the pots a week, or even a fortnight, beyond the time, than to ridge them out before the bed is in a proper condition.

Be careful in keeping a good heat ; in having the lining applied in proper time ; and in well wrapping them up. The lining will be required when they are three weeks old at the back and front. It should be two feet wide about half way up the bed, and lined with litter to the width of six inches, for the purpose of keeping the lining

in a proper condition: wrap it up also within three inches of the top, drawing it in gradually to about eighteen inches wide. With the exception of the foregoing directions, the method of treatment must be exactly the same as given in the Seed-bed for October.

ON THE

MANAGEMENT

REQUIRED IN THE CULTURE

OF THE

Late Cucumber.

THE proper time to sow for late cucumbers, that is, such as are grown in boxes and lights, and have no necessity for linings, is from the middle of March to the middle of April; and after that time seed may be put in for the hand-glass.

Those that are sown in the middle of March will require stronger beds than those sown a fortnight or three weeks afterwards, and should be made from two feet six inches to three feet high; while the latter will not require beds higher than two feet.

Let a trench be dug the size of the frame, about eighteen inches deep, and if the soil is light and rich that is thrown out, the bed may be formed of it ; but if a strong loam it will not answer the purpose.

As soon as the bed is made tread it down well, make it even, and let it have about six inches fall from the back to the front ; then place on the boxes and light ; and when the heat rises, admit from one to two inches of air. In about a week it will be necessary to put the mould in for the hills in the proportion of a barrow-full to a light. This must be levelled about an inch all over the bed to prevent the rank steam from injuring the plants. On the following day they may be ridged out, when the mould must be pressed with the hands close down round the roots of the plants ; and water applied, which should be at the same time sprinkled regularly all over the bed. Add now plenty of air, night and day, until the bed becomes perfectly sweet, which is generally the case in about a week ; after which they may be shut down at night.

Let the topping be the same as directed for the Seed-bed in October; if the soil is light and rich, have a bank on the outside about a foot or eighteen inches wide, and as high, or even higher than the bottom of the box. This will prove a great support to the plants; be the means of producing an abundant crop of fruit; and obviate the necessity of laying; which must otherwise be the case if this plan is not adopted, or the boxes are unusually large. Should laying, however, be preferred, great attention must be paid to it, and the same method adopted as prescribed for the early cucumber.

Particular care is requisite in the culture of the late cucumber to preserve it from the canker; the best means that can be adopted to prevent this injury is to keep them thin of vine, and always apply soft water. This should be given in the morning, or, if not then convenient, never later than three o'clock in the afternoon, when the vines will have an opportunity of drying before night: a fine day should always be taken advantage of for this purpose, which will tend considerably to accelerate their growth. Admit

a double quantity of air for a quarter of an hour before watering; and while the nights continue cold, be careful in keeping them covered up. In some seasons, when the weather is inclement, it will be necessary to observe this even until Midsummer.

By strict attention to the foregoing directions, no danger need be apprehended from the canker, as it generally proceeds from a cold chill; suffering the plants to grow too thick of vine, which keeps them continually moist; and not admitting a sufficient quantity of air necessary to harden them.

In ridging out the plants, put two in small lights and three in larger ones; and when the roots appear through the hills, add mould to them; observing, that they will require moulding up much quicker than those grown at the early season: in fact, after they have been ridged out about a fortnight or three weeks, it will be necessary to mould them up fully.

If the weather is fine, from one to two gallons of water for each light will be necessary every two or three days.

Keep them pegged and laid about once a fortnight; and be particular also in having them thin of vine, topped at the first joint; then allowing them to run four, and afterwards topping them again at the first, as before mentioned in the January sown plants. By observing these directions, a good crop of fruit may be ensured, which will be ready to cut in about a month or five weeks after they have been ridged out.

ON THE

MANAGEMENT

REQUIRED IN THE CULTURE

OF THE

Hand-glass Cucumber.

THE best time to sow for the hand-glass cucumber is from the middle of April to the beginning of May; though they may be sown from the tenth of April until the middle of May; and the plants may be grown in the early cucumber or melon beds.

When they are potted off, put three plants in each pot, being particular in not filling them more than three parts full, as they are very liable at this time of the year to draw up long in the stem. Merely cover the roots with mould at first; in the course of two or three days add a

little more ; and in about a week fill up the pots to the brim.

It is necessary to give them as much air as possible ; and to have them placed at the back of the bed, as near the glass as convenient. They must be well supplied with water, and let them be topped at the first joint.

By this mode of treatment, you may have strong stuggy plants, fit to put under the hand-glass in three weeks ; at all events, they should not be kept in the pots longer than a month, as there is a probability, if that time is exceeded, of their being stunted in the growth.

The soil best calculated to ridge them out in, is a light rich earth. If the soil is of a strong loamy nature, add some leaf mould or rotten dung to it, and mix it up well together.

Dig a trench about a foot in depth,, and three feet wide, and let the bed be made up about a foot above the level, that is, two feet from the

bottom of the trench ; tread it down well, level it, and apply some water if it is dry ; then put the mould on, and let it be dug a spit deep, and eighteen inches wide on each side of the trench ; afterwards put some dung or leaf mould on, and dig it in. Level the mould down, so that the bed will be about six feet wide, and nine or ten inches deep, taking care to leave it a little higher in the middle, where the dung is placed, in order that the mould may not settle, and become lower in the centre, which will have a tendency to injure the plants by absorbing the water, which is most required at the outsides.

It is an excellent plan, if the ground is disengaged two or three months previous to the time it is wanted for the cucumber bed, to mark it out six feet wide, and put in six inches of dung or leaf mould, and lay it up in ridges of two feet six inches in width, and a foot in depth. When wanted for use, level it down, and dig a trench three feet wide for the dung, levelling it as before directed. This method, if it can be conveniently attended to, is certainly preferable to the other,

as it allows an opportunity of incorporating the dung and mould together. If hot dung cannot be easily obtained, it may be dispensed with, provided the seed is not sown earlier than the month of May.

Let the ground be ridged up as before directed, and when wanted for use, level it down ; then mark out six feet wide beds for each, and three feet alleys ; afterwards place the line to the middle of the ridge, and mark out three feet six inches, which must be the distance from the centre of each glass. Take out two spadeful of the mould, level it on the ridge, and put one spadeful of light rich earth in its place, for the purpose of receiving the seed. If the natural soil is light and rich, take out one spadeful, making it round and hollow, about eight inches wide ; then sow the seed from eight to twelve under each glass. If the mould is dry, apply water to the seed, place the glasses on, and shut them down close, observing as they become dry, to sprinkle them with water.

After the seed has been up about a week, it will be necessary to thin them out, in the proportion of six plants to each glass; and in the week following reduce them to three, which is the proper number to be grown together finally for a crop. When they are thus divided, put some light mould round the stems of the plants, which should be done at two different times, allowing a week to elapse between each application, and filling up the hollow that is left.

As soon as they have made two rough leaves, top them at the second joint. This is a plan which may be adopted with success. Hot dung is also of great advantage, as it will cause them to come into bearing nearly a month sooner than would otherwise be the case.

After the plants have been topped, as above directed, let them run to six joints, and then top the magain, when they will show fruit, which may be topped at the first joint. If the hand-glasses are large, fruit will be ready to cut very early.

Be particular in not suffering them to run to too much vine ; six joints is quite sufficient at the first, and afterwards always keep them topped at the first or second joint. By strict attention to this mode of treatment, you may ensure a more abundant crop, and much finer fruit, than can be calculated upon from the usual method of suffering the vine to grow to a considerable length, which tends materially to weaken and exhaust the plant.

Let them be kept under the glasses as long as possible, without danger of injuring them, admitting a small quantity of air in the day-time, when the weather is warm, by means of a piece of wood, in the form of a wedge, about seven inches long, five inches wide, flat, and about three inches at the top. This will enable you to rise or fall the glass according to the quantity of air necessary to be admitted.

Before placing the vine outside the glasses, it will be necessary to admit a larger portion of air, both night and day, for three or four days,

in order to harden the plants ; then mulch the bed all over with litter, which will cause the fruit to be kept clean, and the roots moist, an essential requisite in the culture of cucumbers.

Though moisture is so extremely necessary, yet at all times in the application of water you must be regulated by the temperature of the season. If the weather is hot and dry when they come into full bearing, from three to four gallons of water will be required to each glass every two or three days, if the soil is light, but if of a strong loamy nature, less will be sufficient.

Lay out the vines regular, peg them down, and place four half bricks, that is, one to each corner, under the frame of the glass ; or another method may be adopted, in raising the glass to the south by means of a piece of stick, about the thickness of a broom-stick, a foot in length, with three notches cut in it, about two inches apart, for the purpose of resting the glass upon. This plan is far preferable to the former, in materially

accelerating the growth of the fruit, by preventing too great a current of air ; besides possessing the advantage of easier access to the plants, when there is a necessity for examining them. It is, however, requisite when this method is adopted, that the ridges should always front the south.

If the above directions are strictly attended to, and the season is in any degree favorable, a plentiful crop of fine fruit may be expected.

DIMENSIONS
OF THE
BOXES AND LIGHTS
FOR
Early and late Cucumbers.

Three-light Boxes for October sowing.

THE boxes should be made of good seasoned deal, one inch and a half thick, ten feet seven inches long, four feet three inches wide, and one foot eight inches deep at the back, and eleven inches in the front. The bars to be three inches wide, to have two narrow slips two inches in height, and one slip at each end. The bars to be fluted on each side of the slips, with oak corners, five inches wide.

The lights to be four feet three inches and a half long, three feet six inches wide, and the back rail two inches and three quarters wide; the front to be three inches, and the sides two inches and a half; with three bars, rounded off to a point inside, three quarters of an inch wide. To be made of good seasoned deal, and to have horns both in the back and front. The squares must be formed of strong crown glass, leaded and cemented; let there be five in length, the one in front being five inches long. A small iron bar must be passed in the middle, under the lead of each light, which must also have iron handles.

One-light Box for October sowing.

This must be in length four feet eight inches, three feet seven inches wide, one foot eight inches deep at the back, and eleven inches in the front.

The lights to be half an inch longer than the box; and in all other respects the same as those before described.

For January sowing.

The boxes to be ten feet seven inches long, four feet eight inches wide, one foot eight inches deep at the back, and eleven inches in the front. The bars and slips the same as for October.

The lights to be four feet eight inches and a half long, and three feet six inches wide, with four bars, six squares long, rabbitted, puttied, and a small piece of lead across to every square. In other respects to be the same as those for October.

For Spring sowing.

The boxes to be one foot two inches deep at the back, and eight inches in the front. In other respects, the boxes as well as the lights for spring sowing, must be the same as those directed for the January seed-bed.

Both boxes and lights should have three coats of paint, white inside, and a dark lead colour on the outside.

1870-1871

1871-1872

1872-1873

1873-1874

1874-1875

1875-1876

1876-1877

1877-1878

1878-1879

1879-1880

1880-1881

ON THE CULTURE
OF
THE EARLY AND LATE
Melon.

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF THE HISTORY OF ARTS

1911

ON THE

MANAGEMENT

REQUIRED IN THE CULTURE

OF

Early and late Melons.

For early melons have three loads of dung for a three-light box; but if you have previously grown early cucumbers, the old linings will be useful for the melon bed, by mixing a proportion of one half of fresh dung with it. This, in fact, will be better than all fresh, as it requires only once turning, whereas new dung should be turned twice. In gentlemens' gardens there is generally an abundance of leaves, and sometimes a scarcity of dung; when such is the case, leaves, mixed with an equal proportion of dung, may be used very successfully for the

early melon; and for the late one all leaves, from trees or shrubs, will answer the purpose, particularly where there are brick pits.

Let the dung be put together for a week, and lay the same time before it is turned. Be careful that the bottom is dry where the bed is built; raise it with mould or road sand to the height of six or eight inches, and allow the bottom to be eight or nine inches longer and wider than the box, so that when the bed is made, it may be drawn up in a gradual manner to about three or four inches wider than the box, observing at the same time to beat it well down with a fork. Let it be about three feet nine inches at the back by three feet six inches in the front; should there, however, happen to be a scarcity of dung, a foot of strawberry or asparagus halm, fagots, or pieces of wood, or, indeed, some of each, may be added at the bottom of the bed.

If the dung is dry, apply water to it, that it may be properly moistened; and after the bed

is formed, let it be again watered, as the plants will not thrive so well, nor the linings have the proper effect, if the bed is kept too dry.

The bed should be made three weeks or a month before the plants are put into it, and must be perfectly sweet before they are ridged out. When the bed is in a proper condition, hollow it out in the middle to the depth of four inches, and put a large barrow-full of mould to each hill, pressing it down close with the hand about a foot deep.

The day before you intend to ridge out, put a pot of plants in the bed, to prove whether it is sweet, which, if you ascertain to be the case, and the box is large, ridge them out, three plants to a light; but if small two will be sufficient.

The proper time to sow the seed for an early crop is about the middle of January; and the early cucumber bed will do very well for the purpose. Those sown at this time will be fit to cut in the first or second week of May; but if

there is no particular necessity for fruit so early, the beginning of February is a preferable season to sow, when they will be ready to cut by the latter end of May or the beginning of June.

The Early Cantaloupe is the best sort for an early crop. Let them be sown in leaf mould, about eighteen or twenty seeds in a forty-eight size pot ; immediately apply water, and plunge the pots in a good sharp heat. As soon as the seed makes its appearance, which will be in the course of about three days, if it is good, unplug the pots and give them a little water. In two or three days more they will be fit to pot off, which ought always to be done when about a week old, as they strike much more freely when potted off young. Let the soil for potting off the plants be half leaf mould, and half light loam or bog earth.

The best season to sow for a second crop is the beginning of March, and well calculated for the Stroud Rock, Scarlet Rock, White-seeded Rock, Green Flesh, and, in fact, many others of nearly

the same description, though under different names, which they have derived from those gardeners who have cultivated them by impregnating one with the other. It is by no means, however, advisable to sow the Black Rock before the latter end of March, as it is only calculated for a late melon, and should be grown in large boxes, two plants to a light. This, though a fine looking fruit, and well flavoured, will not suit those whose object is to produce a large quantity; for, by attempting to grow more than two in a light, they will not rock, nor arrive to any degree of perfection.*

The Stroud Rock is a particular favourite with the Author, who has produced fruit of this kind upwards of seven pounds in weight, though the common size varies from three to five. This description of melon is not generally known, although it is a fine looking and excellent

* The Author has in his possession a sort of this description, from which he has produced fruit upwards of ten pounds in weight.

flavoured fruit : it possesses a thin skin, orange-coloured flesh, and the rind is very dark.

The Scarlet Rock is, however, the finest flavoured melon that can be produced, though small in its growth, seldom exceeding the weight of three pounds, and commonly from one to two. The flesh is of a deep scarlet colour, and it is rather inclined to rock.

The Early Cantaloupe is the most productive melon in bearing ; but in order to obtain them good flavoured no more than one fruit must be suffered to swell on a plant at a time, except the lights are large, when two may be allowed, that is, six in a light ; but if, however, the plants are confined to one fruit, a second crop may be obtained.

The White-seeded Rock is a very fine melon in appearance, and much approved of by some gardeners for its qualities in ripening early for a rock ; but it will not, however, keep long, soon loses its flavour, and the colour changes very

yellow ; it is also extremely tender in its growth, and very inferior in flavour to the Stroud Rock ; neither is it so handsome a fruit, so well-flavoured, nor does it ripen any sooner.

The Green Flesh is a fine flavoured melon, with a thin skin, but generally small in its dimensions. The Author has, however, a sort of this kind that will grow from three to five pounds in weight.

The Black Rock melon should not be sown later than the latter end of May ; the Stroud and Scarlet Rock may be sown as late as the tenth of June ; and the Early Cantaloupe about the twentieth of June.

In order to produce fine fruit, be particular in having a good depth of earth, from a foot to eighteen inches will be necessary. When the hills are made for the very early melons, one large barrow-full of mould will be sufficient, which must be pressed down close with the hand. Those that are sown in March will require one

barrow-full and a half, and those afterwards two. In applying this mould, put one barrow-full in first, and tread it down ; then add the remainder, and press it close down with the hand. Procure some good holding loam of a greasy nature, such as is generally found in the marshes, which is the most preferable kind of soil for melons, and let it be well weathered before using. It ought to lay twelve, or at the least six months. Mix this with a sixth proportion of good rotten dung or leaf mould, and let it be turned over two or three different times, that it may be properly sweetened and incorporated together ; taking care, however, that it is not broken too fine.

The mould intended for the hills of the first crop should be lighter than for those grown afterwards, being composed of light loam, mixed with a sixth part of leaf mould or rotten dung ; or an equal proportion of stiff loam and leaf mould. As mould is added after the plants have been ridged out, let it be trod down close, and take particular care that the roots are never exposed to the sun, but as soon as they make their

appearance through the hills, increase the mould, in the proportion of a barrow-full to each hill for the early melon, and two, or even more, to the later one.

In watering the plants, as the season advances, you must be regulated by the composition of the soil, and the temperature of the weather. If the soil is stiff, it will not require half the quantity that should be applied to light mould. If the weather is warm, much water is necessary, but if cold very little should be given, as too much moisture at that time will create the canker.

Heat being materially requisite for preserving the growth of the melon, great care must be taken in keeping the bed well supplied with linings, which must be added until the weather becomes fine and settled; they will generally be required until the beginning of June; but if the season is even then cold, it is better to continue them longer.

In covering up the early plants, at the first

ridging out, a single or double mat will be sufficient ; after that add a little hay, and increase it if the weather is cold. This should be continued until the middle of June, or later, if the season is unfavourable.

Many gardeners being unacquainted with the proper mode of training and topping the melon, and thereby finding it extremely difficult to set the fruit, the Author will here give the method always pursued by himself, which, if strictly observed, will be found to be attended with far less trouble, and more certain in its effect than the plan generally adopted.

When the plants are potted off, top them at the second break ; that is, let them grow to two leaves ; then take out the break, which in some kinds is in the centre, and in others in the second leaf. If you require the fruit very fine, two plants will be sufficient in a light ; but should there be no particular necessity in that respect, and the lights are sufficiently capacious, three may be matured extremely well.

Have four runners to a light ; that is, if two plants, two runners to each ; but if three, two runners to one plant, and one to each of the other two. If the lights are large, they may be suffered to run to eight joints ; but if, on the contrary, the lights are confined, six will be sufficient ; and all other breaks that come out at home, with the first break that issues from the runners, should be effectually taken away, in order that the others may derive strength and nourishment. As soon as they make the first breaks from the runners, which by some are denominated cross bars, top them at the first joint, and in most sorts they will generally show fruit ; but if it should so happen that this does not succeed, top them again, when they are certain of showing fruit at the second.

If they are impregnated in the same manner as prescribed in the directions for the cucumber, there will be no difficulty in setting the fruit, which will also show much bolder, and possess greater strength when topped in close.

Every description of melon will be brought to a greater degree of perfection, by being suffered to swell off on the first shows, which can alone be effected by keeping them thin of vine: if this is particularly attended to, no apprehension need be entertained of the fruit being small or delicate, as, in proportion to the quantity of vine, so it decreases the strength and vigour of the plants.

Great care is necessary in watering the plants: when they are young, it should be applied with a rose; but as soon as the runners are extended all over the bed, that may be dispensed with. If the weather is dull, a small quantity of water will be sufficient; and if very fine, more must be applied carefully without a rose, which will be found beneficial in causing them to set more freely.* An

* As the season advances, and the sun becomes powerful, it will be necessary to shade them from the extreme violence of the heat. Mats are generally made use of, but the Author considers evergreen boughs far preferable, as the former entirely precludes the sun, whereas the latter is beneficial to

insufficiency of moisture is an error too prevalent with many gardeners in the culture of the melon, and indeed the inferiority of their fruit, both in weight and flavour, may be greatly attributed to want of judgment in this particular; for if the plants are kept thin of vine, the necessity of which has been before stated, they are of course more open to the air, and the sun has greater power in drying up the soil, consequently the plants will become exhausted, and the fruit will ripen before its growth is properly matured.

The Early Cantaloupe melon, if left to its full time, will be five weeks from the period of setting before it ripens; the Stroud about six; the Scarlet seven; and the Black Rock upwards of seven; there will, however, be some difference between those forced early with bottom heat, and those grown late; the early ones coming to perfection three or four days, or even a week before the other.

the plants, in admitting it partially. This will be generally requisite from about ten until two; and at that time, in proportion to the degree of shade, a larger quantity of air must be admitted.

The proper time to sow for under-ground melons, that is, such as are grown without linings, is from the twenty-fifth of March to the twentieth of June; observing, at the same time, that those which are sown in March will require stronger beds than those that are set three weeks or a month later.

The beds for the first should be formed of good dung, well worked, and three feet in height; whereas the latter will only require two feet. Dig a trench the size of the frame, about eighteen inches deep; and if the soil is a strong good holding loam, it will answer the purpose for any description of rock melon; they requiring a strong soil to bring them to perfection; a light loam, however, may be used for the Early Cantaloupe.

As soon as the bed is formed, tread it down well, make it even, and let it have about six inches fall from the back to the front; then put on the boxes and lights, and when the heat rises to its proper height, which will be in the course

of three or four days, put the mould in for the hills, in the proportion of two barrows-full to a light, levelling it about an inch all over the bed, for the purpose of preventing the rank steam from injuring the plants. On the following day they may be ridged out, and watered, being very particular in sprinkling the bed regularly over. Admit air freely both night and day at first, until the bed is purified, and becomes perfectly sweet; this will be the case in about a week, when they may be shut down at night. Let the topping and training be the same as directed for the early ones.

If the soil is strong, and of a binding nature, a bank may be made on the outside, at the back and front, about a foot or eighteen inches wide, which will prove a great support to the fruit, and cause them to grow much larger and finer; but if the soil is light and rich, by no means make a bank, nor ridge out the plants in it, as mould of that description is not at all adapted for the production of fine melons. The only one that will in any degree thrive in light rich

soil is the Early Cantaloupe ; but any kind of the rock description will never come to perfection.

It is here necessary to observe that it is impossible ever to obtain fine or good flavoured fruit, if more than one is suffered to swell on a plant at a time, as that support which is essential and ought to be directed to one object, by becoming divided, is insufficient for the perfection of more, and naturally weakens the fruit, and renders it of little or no value.

Many horticulturists experience much difficulty from the effects of the red spider and canker in melons ; the former being caused by keeping them too dry, and the latter arising from too much moisture. In order to avoid these evils, the following directions should be particularly attended to. When the weather is hot, or there is a strong bottom heat, it is necessary to be free in the application of water, especially round the sides of the boxes ; for when the plants cover the bed, it will not be requisite to give any in the centre over the stems.

When the plants cover the surface of the bed always water without a rose, observing that it should be invariably done in the morning, and when the weather is fine, so as to allow the vines to get dry before night, which will not be the case, if it is applied in the afternoon ; and should the following day be dull, and perhaps continue so for three or four, the vines will remain wet, and then there is every probability of their getting the canker, which entirely proceeds from a cold chill, created by unnecessary moisture.

The canker is a very destructive disorder, and extremely difficult to eradicate. The only means that can be adopted, or likely to prove beneficial, is to keep the plants as dry as possible, and to give a good heat ; being careful, at the same time, not to run into the other extreme, and create the red spider. If, however, the plants are kept thin of vine, and water is applied in the manner before directed, no fear need be entertained of either of the above disorders.

DIMENSIONS
OF THE
BOXES AND LIGHTS
FOR
Early and late Melons.

Boxes and Lights for the first early Melons.

THE wood-work should be of the same thickness, as those directed for early cucumbers, and the boxes of the same length ; but two feet deep at the back, five feet wide, and one foot three inches in the front.

For Melons sown from the middle of February until the latter end of March, grown with linings.

The boxes and lights to be the same in thickness, length, and depth ; five feet six inches

wide; four bars to a light, with a small iron bar across the middle, in the inside, under the lead-work.

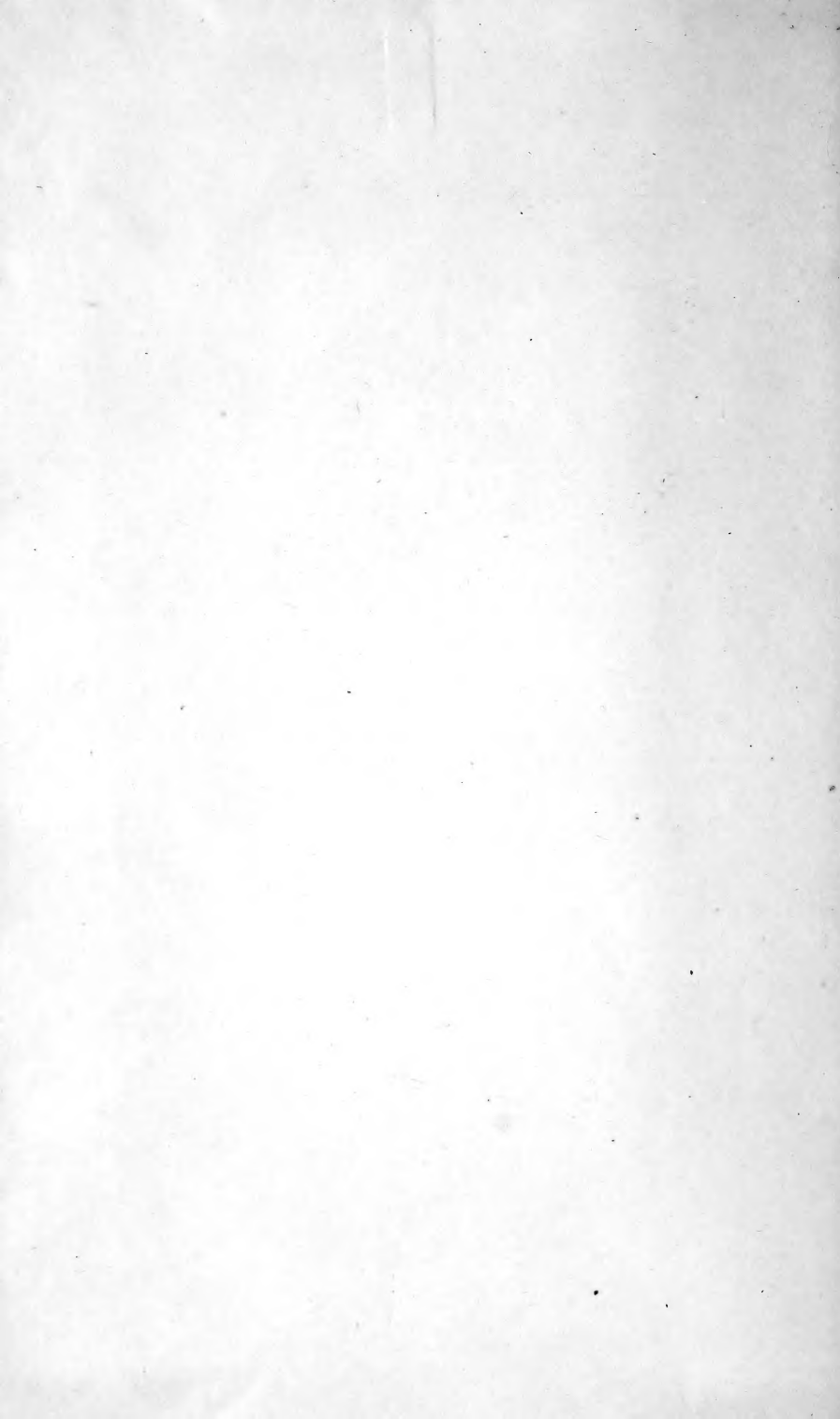
For late Melons, grown without Linings.

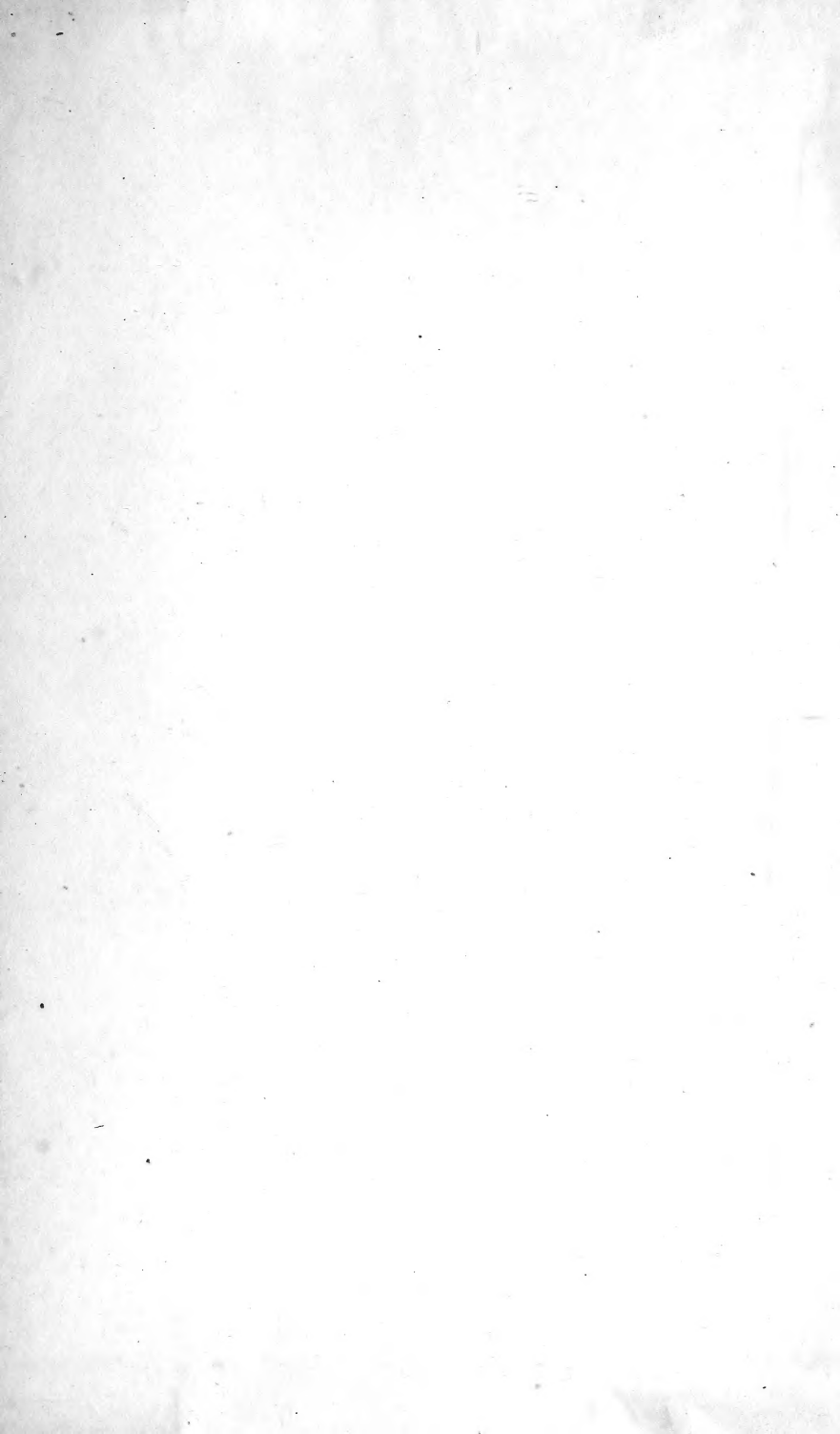
The boxes and lights to be the same as those before described, with the exception of being eighteen inches deep at the back, by eleven inches in the front.

Brick Pits.

Let these be formed of nine inch brick-work, sunk one foot under-ground; five feet high at the back, by three feet six inches in the front, from the bottom; and six feet wide in the inside. Let the lights be three feet eight inches wide.

THE END.





LIBRARY OF CONGRESS



00009167304